

Municipality/Organization: Town of Lincoln

EPA NPDES Permit Number: MAR041043

MaDEP Transmittal Number: W-035460

**Annual Report Number
& Reporting Period:** No. 12: May 2014 – May 2015

NPDES PII Small MS4 General Permit Annual Report

Part I. General Information

Contact Person: Timothy Higgins

Title: Town Administrator

Telephone #: 781-259-2600

Email: higginst@lincolntown.org

Certification:

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Signature:



Printed Name: Timothy S. Higgins

Title: Town Administrator

Date: April 24, 2015

Part II. Self-Assessment

The Town of Lincoln has completed the required self-assessment and offers the following feedback on the permit compliance of our municipality: The initial 5-year NPDES MS4 General Permit has been expired for several years and we understand that the new Permit (for Massachusetts North Coastal Small MS4 communities) is expected to be issued sometime in the coming months. We realize that we need to make a strong attempt to establish bylaws and regulations for construction site stormwater management and for illicit discharge detection and elimination. The issuance of a new Permit will help facilitate this course of action. Our educational outreach program needs to be reinvigorated and again this will be encouraged with the issuance of a new Permit.

Much of Lincoln is located outside the MS4 regulated area, and the northern area of our MS4 is part of Hanscom Air Force Base which is governed by their own NPDES Permit. However, we do our best to have clean stormwater discharges to receiving waters throughout our community. Our biggest contribution to water quality is in land preservation and nearly half of our community is permanently preserved open space. The average impervious cover in our 7 abutting towns is 16.67% while Lincoln has the lowest at 9.09%.

Being a small community we have limited staff and when a new NPDES Permit is issued we will likely retain the professional services of a consulting firm with local stormwater management expertise to help us as we develop our Notice of Intent and associated plan for moving forward. We have been in direct contact with one such company already.

Several major projects are ongoing that have significant improvements to stormwater management. These include the Hanscom Air Force Middle School (which is nearing completion) and the Crosby's Corner-Route 2 Safety Improvement project. As with the previous year, Lincoln road work done by our Department of Public Works (DPW) incorporated leaching catchbasins and country drainage. DPW's new leaf vacuum helped considerably in fall leaf cleanup along our roadways and on other municipal land. These leaves are then composted and used as fertilizer by our local farms. We finally completed the acquisition of the proper equipment to enable the DPW to pre-treat our roads with a brine solution. This work will start in the winter of 2015/2016. Implementation of this BMP will allow the Town to minimize overall use of salt and sand on our roads during the winter season.

A major educational outreach publication was produced by our Conservation Planner last year - "Ecological Design, Construction and Maintenance Handbook – best practices for balancing site construction & land protection". A link to this electronic magazine is on the Town's website – www.lincolntown.org and hardcopies are available at the Conservation Office. This was submitted as part of last year's Annual Report and it has been well-received by residents and builders.

Part III. Summary of Minimum Control Measures

1. Public Education and Outreach

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 12 (Reliance on non-municipal partners indicated, if any)
1-A	Lincoln Specific Stormwater Flyers	ConCom	Distribute at Town Hall and public events.	Lincoln has several brochures relating to stormwater awareness and healthy lawns and landscapes available at the Town Offices. These are also made available at the annual Town Meeting
1-B	Education via Newspaper Articles	ConCom	Write at least one article per year	Article on stormwater in Lincoln Journal not submitted.
1-C	Education via the Internet	ConCom	Provide stormwater information and links on Town website	Stormwater information is posted on Town Website. Links to other websites including EPA's site also posted. The Town has a fairly new website with extensive new content. It is much more user-friendly and has lots of "green" information.
1-D	Homeowner and Contractor BMP Manual	ConCom	Provide manual with best current methods.	This manual is completed and available as an electronic magazine with live links to many stormwater web resources. Hardcopies are available at the Conservation Office.
1-E	Invasive Plants Guide	ConCom	New color guidebook is available.	This guide is focused directly on Lincoln although it is pertinent for any community in the Commonwealth. It will help protect ecological integrity throughout our watersheds.

1a. Additions

1-F	Open Space Plan	Open Space Committee	State approved Open Space Plan	60 acres of land was permanently protected in the Charles River Watershed.
1-G	New Homeowner Information Packet	ConCom	Provide property information to new homeowners.	Distributed packets including Lincoln specific fliers and return postcard to new homeowners. Work is ongoing and effective
1-H	Municipal GIS Website	ConCom	Offer public free GIS website with datalayers for Town.	The revised GIS system is functioning effectively. Layers include wetlands, buffer zone, & floodplain. Completely updated in 2014 with very accurate parcel boundaries. This is used extensively by residents and others.
1-I	Conservation Walk Series	ConCom	Provide educational outings for the public.	Spring and fall series of walks to get people on land and educated about conservation issues with a concentration on watershed activities. This is an annual series that is well attended and connects residents to the Town's natural resources.
1-J	Healthy Lawn and Landscape Brochures	ConCom Garden Club	Distribute to residents.	This brochure was fully revised and updated in 2011 and is distributed at Town Hall and at municipal events. Minimizing or eliminating fertilizer and pesticides are the key components discussed.

2. Public Involvement and Participation

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 12 (Reliance on non-municipal partners indicated, if any)
2-A	Annual Meeting on NPDES Plan and Report	Town Administrator	Hold Committee meeting each year	NPDES meeting including Town Planner, Conservation Director, and Public Works Director was held.
2-B	Watershed Group Involvement	ConCom Local Groups	Continue ongoing activities to protect the health of our wetlands & watersheds.	We work closely with the City of Cambridge's Water Department on stormwater issues. ConCom partnered with Concord for 15 th consecutive year on water chestnut removal. ConCom representatives are active with the Suasco River Stewardship Council. We also continue to participate with the Suasco Cisma.
2-C	Involve Lincoln Children's Groups	ConCom	Involve Lincoln Children's Groups in watershed clean-up and other activities.	Worked with various classes and groups on local ecological issues, including teaching importance of stormwater management for drinking water quality.

2a. Additions

2-D	Wetland buffer restoration through invasive species removal	ConCom	Work once per year with community and/or school group to restore wetland habitat.	Sixth annual Garlic Mustard pull days held with excellent community participation. This is critical work for maintaining the health of native plant ecosystems.
2E	Open Space Plan	ConCom Open Space Committee	State Approved Plan with 5-year Action Plan	Following through with 5-year Action Plan for the Open Space and Recreation Plan.

2-F	Elm Brook Stream Restoration	ConCom Minute Man National Historical Park	Stream daylighting with natural stream-bed construction and native plantings	This is a Shawsheen River watershed project. Stream continues to be healthy with native vegetation and abundant wildlife.
2-G	Habitat inventory and monitoring	ConCom	Conduct habitat inventories	Baseline monitoring of all conservation lands and holdings is completed.
2-H	Comprehensive Plan (Town's Master Plan)	Planning Board	Work to achieve goals outlined in plan, which include open space preservation and ecological protection.	Work on implementing plan is ongoing. Open space goals mirror what is in the Open Space Plan. A Committee is continuing to work on ensuring all Departments and Boards are following through on their initiatives.

3. Illicit Discharge Detection and Elimination

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 12 (Reliance on non-municipal partners indicated, if any)
3-A	Illicit Discharge Bylaw	Highway Board of Health	Discussions and review of regulations	Board of Health continues to review and permit all septic system maintenance and construction. Conservation permitting is done for all systems within 100 feet of wetlands or 200 feet of perennial streams.
3-B	Storm Drain Map	Highway Town Administrator	Field-verify and map storm drains and outfalls	Used GPS to collect accurate field data for stormwater, culvert, and Water Dept. infrastructure. This work continues and is not yet completed.
3-C	Illicit Discharge Detection and Elimination Plan	Highway	Visually screen outfalls during dry weather.	Priority areas are the Tower Road wellhead protection zones A and B and Flint's Pond and Cambridge Reservoir surface water protection Zones 1 and 2. Household hazardous waste coordinated with the Town of Lexington.

3-D	Illicit Discharge Education for General Public and Businesses	ConCom Planning	Include illicit discharge education information in fliers.	ConCom brochures distributed on how to reduce lawn and yard pesticide and chemical fertilizer use. DPW maintains metal "No Dumping – Drains to River" catchbasin markers.
3-E	Illicit Discharge Education for Municipal Employees	Highway Fire Department	Municipal training for Town.	Fire Department continues their annual training in spill prevention and containment. DPW employees trained on spill prevention and containment.

3a. Additions

3-F	Annual Monitoring of all public and private Conservation Land.	ConCom Lincoln Land Conservation Trust	Inspect boundaries and interiors of all permanently protected open space	Work completed by LLCT and ConCom staff. Any violations, including illicit discharges, are searched for. This includes over 3096 acres which is 33% of the Town.
-----	--	--	--	--

4. Construction Site Stormwater Runoff Control

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 12 (Reliance on non-municipal partners indicated, if any)
4-A	Construction Site Runoff Bylaw	Planning ConCom	Initial Discussions and review of existing and model bylaws was had.	Construction site runoff is adequately managed through wetlands permitting and site-plan review. Due to nature of Lincoln's character, no bylaw appears to be necessary at this time.
4-B	BMPs for Construction Site Erosion, Sediment, and Waste Controls	Planning ConCom	Stay current with construction-site BMP's	DEP Stormwater Regulations are administered by the Conservation Commission. BMP's required through wetland and site-plan permitting.

4-C	Construction Site Plan Review Procedures	Planning ConCom	Maintain review and communication between land-use boards	Planning Board, ConCom, and Building Inspector currently review construction site plans.
4-D	Construction Site Inspection and Enforcement Procedures	Planning ConCom	Inspect and Enforce Construction Site through local boards	Planning and Conservation staff monitor construction sites as does the Building Inspector.
4-E	Response to Public Stormwater Hotline	Highway ConCom	Maintain Stormwater Hotline	Conservation Department phone is the Hotline during working hours and Public Safety Dispatcher during other hours.

4a. Additions

4-F	Zoning Bylaw Revisions for FEMA Floodplain Requirements	Planning Board ConCom	Revise floodplain regulations and get approved by Town Meeting.	In 2014 Town Meeting approved the changes that strengthen regulatory authority to limit floodplain alteration, thus protecting this resource area that is critical to stormwater management.
-----	---	-----------------------	---	--

5. Post-Construction Stormwater Management in New Development and Redevelopment

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 12 (Reliance on non-municipal partners indicated, if any)
5-A	Post-Construction Site Runoff Bylaw	Planning ConCom	Initial discussions; review current local/state regulations; review proposed samples – ongoing.	Post-Construction site runoff is adequately managed through wetlands permitting and site-plan review. We are now exploring the establishment of a new bylaw to meet this requirement.
5-B	Choose Structural and Non-structural BMPs	Planning ConCom	Stay current with construction-site BMP's	Continued enforcing current BMPs as shown on 5-year NPDES Stormwater Phase II Compliance Plan.

5-C	Long-Term BMP Operation and Maintenance Procedures	Planning ConCom	Require Operation and Maintenance Plan Procedures for single-family through Bylaw.	OMPs are required under DEP Stormwater Management Regulations for projects requiring a Stormwater Management Plan. General review provided through existing permitting.
5-D	Structural BMP Implementation Procedures	Planning ConCom	Outline structural BMP requirements in Bylaw	Review structural stormwater management controls through existing permitting process. Where possible require low-impact development strategies and non-structural components.

5a. Additions

5-E	Permits Issued for Major Projects with Drainage Improvements	ConCom	Work with applicants to ensure proper stormwater BMPs are used during and after construction.	<p>Major projects that are still ongoing include:</p> <p>Crosby's Corner/Route 2 Project with extensive stormwater management BMPs and wetlands habitat restoration. This work is ongoing and will be for at least one more year.</p> <p>Hanscom Air Force Base Middle School reconstruction is near completion.</p> <p>The Town Offices renovation disconnected a direct discharge to wetlands. Drainage now includes deep-sump catchbasins and discharge to a vegetated infiltration strip in the upland.</p>
-----	--	--------	---	---

6. Pollution Prevention and Good Housekeeping in Municipal Operations

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 12 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 13
6-A	Employee Training to Prevent/Reduce Stormwater Pollution	Highway Fire Department	Municipal training for Public Works and Fire Department employees.	Fire Department and Public Works Department continues ongoing spill prevention and cleanup training. Containment booms have been placed in the DPW garage. These booms will be available to be placed around catch basins in the event of a fluid spill.	Continue Fire and Public Works Dept. training to prevent any stormwater pollution.
6-B	Hazard Mitigation Plan	Fire Department	Update Plan to current requirements.	FEMA requires the Town to have a current and updated Hazard Mitigation Plan and work on this is ongoing.	Plan to complete update to FEMA/MEMA standards. Town is working with FEMA/USGS on the Charles Watershed Flood Hazard study and remapping project.

6-C	Maintenance/Inspection of Storm Sewers and Structural/Non-Structural Controls	Highway	Assess existing controls, maintenance activities, schedules, and long-term inspection procedures	<ul style="list-style-type: none"> • The Town of Lincoln annually cleans approx. 510 catch basins. Continued assessment of existing maintenance/inspection of storm drainage system. • The DPW continued to clean the Town's road shoulder areas to remove built-up material and improve natural drainage runoff. • The DPW continued to clean and maintain the newly constructed sedimentation basins, which were very successful in trapping sediment and keeping it out of the Cambridge water supply system. These newly constructed sediment basins work extremely well in reducing sediment flow into wetland areas. • The DPW has replaced or cleaned-out several drain lines and culverts. • DPW took ownership of a Brine Pre-treatment system in February 2015. This system will be operation in 2015/2016. • In 2014, the DPW completed replacement a 1995 leaching drainage system on Moccasin Hill Road and Laurel Drive. The new system incorporates leaching basins. • DPW will meet with MassDOT to assume ownership of a new retention basin at Bedford Road/Oak Knoll. 	Continue to develop new and improved activities, schedules, and procedures.
-----	---	---------	--	---	---

6-D	Pollutant Source Reduction/Elimination from Municipal Facilities and Activities	Highway	Assess existing facilities, activities, and BMPs and continue additional or improved BMPs	<ul style="list-style-type: none"> The Public Works Dept. continues to develop a current BMP oriented winter de-icing policy. 	<ul style="list-style-type: none"> Review of 1971 Town regulation that restricts the snow & ice removal procedures to 10% salt and 90% sand Public Works Roadside Maintenance Program Commence Public Works materials handling procedures Continue roadside sweeping activities Continue sweeping and maintenance of Public Works Barn
6-E	Waste Disposal Procedures from Storm Sewers and Municipal Facilities/Activities	Highway	Assess existing waste disposal procedures, review MA guidelines, brainstorm improved and new procedures	<ul style="list-style-type: none"> Proper disposal methods as approved by DEP on the material are undertaken each year. 	<ul style="list-style-type: none"> Street Sweepers will be used in accordance with MassDEP Policies, including compost and landfill capping.

Part IV. Summary of Information Collected and Analyzed

Incorporation of watershed, stream, wetland and other water related layers in GIS database	yes	Now accessible to public via web-based GIS viewer
GPS identification of storm drains, outfalls and other water-related information	(90%)	ongoing
Water quality data	yes	Lincoln & Cambridge Water Dept.s

Part V. Program Outputs & Accomplishments (OPTIONAL)

Programmatic

Stormwater management position created/staffed	no	
Annual program budget/expenditures	(\$0)	

Education, Involvement, and Training

Estimated number of residents reached by education program(s)	(50%)	
Stormwater management committee established	(no)	
Stream teams established or supported	non active	
Household Hazardous Waste Collection Days		
▪ days sponsored	(8)	
▪ community participation	(60%+/-)	
▪ material collected		
School curricula implemented	No	
On-going open space and watershed planning, education and outreach	(yes)	
Habitat, wetland, stream and biological inventory and monitoring	(yes)	

Legal/Regulatory

	In Place Prior to Phase II	Under Review	Drafted	Adopted
Regulatory Mechanism Status (indicate with "X")				
▪ Illicit Discharge Detection & Elimination				
▪ Erosion & Sediment Control	X			Wetlands

▪ Post-Development Stormwater Management	X			Wetlands/ Site-Plan
Accompanying Regulation Status (indicate with "X")				

Mapping and Illicit Discharges

Outfall mapping complete	(90%)	
Estimated or actual number of outfalls	(200)	
System-wide mapping complete	(90%)	
Mapping method(s)		
▪ Paper/Mylar	(80%)	
▪ CADD	(0%)	
▪ GIS	(90%)	
Outfalls inspected/screened	(0)	
Illicit discharges identified	(0)	
Illicit connections removed	(0)	
% of population on sewer	(0)	
% of population on septic systems	(100%)	

Construction

Number of construction starts (>1-acre)	(2)	redevelopment
Estimated percentage of construction starts adequately regulated for erosion and sediment control	(80%)	all w/wetlands
Site inspections completed	(90%)	
Tickets/Stop work orders issued	(0)	
Fines collected	(0)	
Complaints/concerns received from public	(0)	

Post-Development Stormwater Management

Estimated percentage of development/redevelopment projects adequately regulated for post-construction stormwater control	(100%)	
Site inspections completed	100%)	
Estimated volume of stormwater recharged		

Operations and Maintenance

Average frequency of catch basin cleaning (non-commercial/non-arterial streets)	(1 time/yr)	
Average frequency of catch basin cleaning (commercial/arterial or other critical streets)	(1 time/yr)	
Total number of structures cleaned	(510)	
Storm drain cleaned	(200 LF)	
Qty. of screenings/debris removed from storm sewer infrastructure	500 CY	
Disposal or use of sweepings (landfill, POTW, compost, recycle for sand, beneficial use, etc.)	Off-site	
Cost of screenings disposal	\$15,000	

Average frequency of street sweeping (non-commercial/non-arterial streets)	(1 time/yr)	
Average frequency of street sweeping (commercial/arterial or other critical streets)	(1 time/yr)	
Qty. of sand/debris collected by sweeping	1,800 CY	
Disposal of sweepings (landfill, POTW, compost, beneficial use, etc.)	Landfill	Compost
Cost of sweepings disposal	\$50,000	
Vacuum street sweepers purchased/leased	0	
Vacuum street sweepers specified in contracts	No	

Reduction in application on public land of: (“N/A” = never used; “100%” = elimination)		
▪ Fertilizers	Ag & sports field only	
▪ Herbicides	Some Ag	
▪ Pesticides	Some Ag	
Elimination of chemical pesticides and fertilizers on lawn in buffer zone resource areas	All OOC's	Wetlands

Require organic or IPM practices on licensed conservation lands	done	
Anti-/De-Icing products and ratios	25% NaCl 75% Sand	
Pre-wetting techniques utilized	yes	
Manual control spreaders used	yes	
Automatic or Zero-velocity spreaders used	no	
Estimated net reduction in typical year salt application	(lbs. or %)	
Salt pile(s) covered in storage shed(s)	yes	
Storage shed(s) in design or under construction	n/a	

Attached are:

- *Lincoln's Designated MS4 Areas (1)*
- *Lincoln's Impervious Cover Map (2)*
- *DPW Best Management Practices (3-6)*
- *Cover & Back of New Invasive Plant 10-page Guide (7)*